IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.   (Currently Amended) A method of operating an Internet Protocol (IP) network comprising a plurality of routers, each router further comprising a plurality of interfaces, the method comprising the steps of:

connecting, as needed, an unconnected and unconfigured spare interface on a first router in the IP network to a re-configurable transport network which provides connectivity to an unconnected spare interface on a second router in the IP network upon detection of a pre-designated condition in the IP network; and

switching traffic designated for a primary interface at the first router to the spare interface at the first router in the IP network, thereby causing the traffic to flow across a spare capacity on the re-configurable transport network between the spare interface on the first router and the spare interface on the second router in the IP network, wherein switching comprises assigning the spare interface at the first router an IP address that is identical to an IP address of the primary interface at the first router.

2.   (Original) The method of claim 1 wherein the pre-designated condition is a failure in the primary interface at the first router in the IP network.

3.   (Previously Presented) The method of claim 2 wherein the primary interface provided connectivity to the re-configurable transport network before said failure and wherein the spare interface provides 1:N interface protection.

4.   (Original) The method of claim 2 wherein the primary interface provided connectivity over a direct point-to-point link and wherein the spare interface provides dynamic establishment of a new IP link in response to the failure.

5. (Original) The method of claim 1 wherein the pre-designated condition is a surge in traffic across the primary interface at the first router in the IP network.

6. (Original) The method of claim 1 wherein the re-configurable transport network comprises a plurality of optical cross-connects.

7. (Currently Amended) A device-readable medium storing program instructions for performing a method of operating a router in an Internet Protocol (IP) network, the router further comprising a routing table and a plurality of interfaces including an unconnected and unconfigured spare interface providing connectivity through a re-configurable transport network to an unconnected spare interface on a second router in the IP network, the method comprising the steps of:

receiving a signal indicating a pre-designated condition in the IP network;

connecting, as needed, said unconnected and unconfigured spare interface on said router in the IP network to said re-configurable transport network which provides connectivity to said unconnected spare interface on said second router in the IP network upon receiving said signal indicating a pre-designated condition in the IP network; and

reconfiguring the routing table in the router so as to switch traffic designated for a primary interface at the router to the spare interface at the router, thereby causing the traffic to flow across a spare capacity on the re-configurable transport network between the spare interface on the router and the spare interface on the second router in the IP network, wherein switching comprises assigning the spare interface at the router an IP address that is identical to an IP address of the primary interface at the router.

8. (Original) The device-readable medium of claim 7 wherein the pre-designated condition is a failure in the primary interface at the first router in the IP network.

9.   (Previously Presented) The device-readable medium of claim 8 wherein the primary interface provided connectivity to the re-configurable transport network before said failure and wherein the spare interface provides 1:N interface protection.

10.   (Original) The device-readable medium of claim 8 wherein the primary interface provided connectivity over a direct point-to-point link and wherein the spare interface provides dynamic establishment of a new IP link in response to the failure.

11.   (Original) The device-readable medium of claim 7 wherein the pre-designated condition is a surge in traffic across the primary interface at the first router in the IP network.

12.   (Currently Amended) An Internet Protocol (IP) router comprising:

a plurality of interfaces including at least one primary interface and an unconnected and unconfigured spare interface providing connectivity, as needed, through a re-configurable transport network to an unconnected spare interface on a second router in an IP network, wherein said unconnected spare interface is connected to said unconnected spare interface on said second router in the IP network upon receiving a signal indicating a pre-designated condition in the IP network; and

a routing table that is reconfigured so as to switch traffic designated for a primary interface at the router to the spare interface at the router, thereby causing the traffic to flow across a spare capacity on the re-configurable transport network between the spare interface on the router and the spare interface on the second router in the IP network, wherein switching comprises assigning the spare interface at the router an IP address that is identical to an IP address of the primary interface at the router.

13.   (Original) The router of claim 12 wherein the pre-designated condition is

a failure in the primary interface at the first router in the IP network.

14.   (Previously Presented) The router of claim 13 wherein the primary interface provided connectivity to the re-configurable transport network before said failure and wherein the spare interface provides 1:N interface protection.

15.   (Original) The router of claim 13 wherein the primary interface provided connectivity over a direct point-to-point link and wherein the spare interface provides dynamic establishment of a new IP link in response to the failure.

16.   (Previously Presented) The router of claim 12 wherein the pre-designated condition is a surge in traffic across the primary interface at the first router in the IP network.